

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hirth, et la.	§	
		§	Group Art Unit:
Patent No.:	6,079,496	§	
	(to be reissued)	§	
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		§	
For:	Reduced Shock Landing Collar	§	Attorney Docket No.: D5407-25

Commissioner of Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Please add claims 21-36 to the 20 original claims from U.S. Patent 6,079,496, as listed below.

21. An apparatus for selective obstruction on a tubular by holding an object placed thereon, to allow pressure buildup in said tubular, comprising:

a non-metallic body mounted in the tubular having a passage there-through and further comprising a seat surrounding said passage to accept the object, to allow for selective pressure buildup above said body, said non-metallic construction of said body facilitating rapid removal thereof for subsequent full bore access through the tubular.

22. The apparatus of claim 21, wherein:

said body is made from a plurality of non-metallic components movable with respect to each other responsive to a predetermined force on the object when engaged to the said seat.

23. The apparatus of claim 22, wherein:

relative movement of said non-metallic components is regulated by displacement of fluid from a cavity, defined at least in part by said components, through an outlet which presents a flow restriction.

24. The apparatus of claim 23, wherein:

said cavity is formed, at least in part, by the tubular.

25. The apparatus of claim 23, wherein:

one of said components comprises a housing secured to the tubular, another of said components comprises a piston, said cavity defined between said piston and said housing, said restriction is defined by said housing as an outlet in communication with said cavity, said cavity varies in volume upon piston movement.

26. The apparatus of claim 25, wherein:

said piston exposes a bypass passage upon a predetermined movement.

27. The apparatus of claim 26, wherein:

said bypass passage increases in open area at a higher rate as said piston is displaced.

28. The apparatus of claim 25, wherein:

said piston is in two pieces which are selectively held by a breakable member;

whereupon pressure buildup to a predetermined level, a portion of said piston with said seat and the object in contact therewith can be expelled through said housing.

29. The apparatus of claim 24, wherein:

said components comprise a stationary component supported by the tubular and a movable piston extending sealingly and movably through an opening in said stationary component,

said movable piston contacting the tubular to define said cavity as an annular shape around said piston; and

said restriction is mounted to said housing.

30. The apparatus of claim 29, wherein

said seat is secured to said piston by a breakable member;

whereupon pressure buildup to a first level on said seat, with the object engaged to it, displaces said piston with said seat to reduce the volume of said cavity by fluid displacement through said restriction, while a further pressure buildup breaks said breakable member to allow said seat and the object to be expelled from a passage in said piston.

31. The apparatus of claim 23, wherein:

said restriction comprises a rupture disc.

32. The apparatus of claim 23, wherein:
said restriction comprises an orifice.
33. The apparatus of claim 31, wherein:
said restriction comprises an orifice.
34. The apparatus of claim 21, wherein:
said body comprises an external thread for mounting to the tubular.
35. The apparatus of claim 21, wherein:
said seat is made from a ceramic material.
36. The apparatus of claim 21, wherein:
said body is made from one or more of plastic, epoxy, or phenolic materials.

Respectfully submitted,



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